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APPLICATION NO. 09/274,101	FILING DATE 09/23/99	FIRST NAMED INVENTOR GWO JUH	ATTORNEY DOCKET NO. EM7JUH/4463
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09/274,101

MM92/0509

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EXAMINER SAWHNEY, H

ART UNIT 2875	PAPER NUMBER
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DATE MAILED: 05/09/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/274,101

Applicant(s)

GWO-JUH ET AL.

Examiner

Hargobind S Sawhney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☐ Responsive to communication(s) filed on 14 May 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-16 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☒ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 17) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6-9 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishikawa et al. (U.S. Patent No. 5,575,549).

Regarding claims 1-4, 6-9 and 13-15, Ishikawa et al. (U.S. Patent No. 5,575,549) discloses a back light source device (Figure 4) comprising:

- a transparent light guide plate 1 (Figure 4, column 3, lines 52-53);
- a plurality of diffusing units 5 (Figure 4, column 3, line 55-57) installed on the rear surface of the transparent light guide plate 1;
- the diffusing units 5 having light guiding surfaces (Figures 3 and 4);
- a diffusing piece 3 (Figure 4, column 3, line 53) on the transparent light guide plate 1;
- a reflecting piece 4 (Figure 4, column 3, line 54) below the transparent light guide plate 1; and

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- a lateral light 2 (Figure 4, column 3, line 53);
- the diffusing unit 5 having a convex shape (Figures 28 -32, column 8, lines 33-38);
- the diffusing unit 5 having a concave shape (Figure 4, column 8, line 59);
- the diffusing units 5 being arranged with different distance (Figures 4 and 32-39, column 9, lines 23-26) between them;
- the diffusing unit 5 having a V-shape (Figure 4, column 3, lines 58-60) lateral cross section;
- the diffusing unit 5 having a U-shape (Figures 32-39, column 7, lines 63) lateral cross section;
- the projecting area of the diffusing unit 5 on the light guiding plate 1 being incremented (Figures 10-12, 22-32, column 6, lines 26-29) with the distance increase to the lateral light source 2;
- the light guiding surfaces of the diffusing unit 5 having different elevations (Figures 13, 24-26, 28, column 8, lines 10-12) incremented with the distance increase to the lateral light source 2;
- the projecting area of the diffusing surface being increased (Figure 40) with the distance increase to the middle of the light guide plate 1;
- the transparent light guide plate 1 (Figure 4, column 3, lines 52-53) having its thickness decreasing (Figure 4) with the distance to the lateral light source 2 (Figure 4, column 3, line 53);

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- the transparent light guide plate 1 (Figures 16-19, column 7, lines 12-16) having its thickness wider than that of its middle portion; and
- the lateral light source 2 (Figure 4, column 3, line 53) being a linear light source (Figure 4, column 3, line 53);

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 10,11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (U.S. Patent No. 5,575,549) in view of Ciupke (U.S. Patent No. 5,461,547).

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Regarding claim 10, Ishikawa et al. (U.S. Patent No. 5,575,549) does not disclose the light guiding surface being in parallel to the lateral guide source.

On the other hand, Ciupke (U.S. Patent No. 5,461,547) discloses a panel display lighting system comprising the light guiding surface 16 (Figure 2, column 2, lines 45-46) parallel (Figure 2, column 2, lines 45-47) to the lateral light source 18 (Figure 2, column 2, lines 62-63).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the backlight source device of Ishikawa by providing guiding surface as taught by Ciupke (U.S. Patent No. 5,461,547) for benefit and advantage of providing effective diversion of the light introduced into the light guide for substantially uniform light emission.

Regarding claim 11, Ishikawa et al. (U.S. Patent No. 5,575,549) does not disclose the backlight light source having its light guiding surface being at an angle with the lateral light source.

On the other hand, Ciupke (U.S. Patent No. 5,461,547) discloses a panel display lighting system comprising the light guiding surface 16 (Figure 2, column 2, lines 45-46) being at an angle (Figure 2, column 4, lines 3-6) to the lateral light source 18 (Figure 2, column 2, lines 62-63).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the backlight source device of Ishikawa by providing guiding surface as taught by Ciupke (U.S. Patent No. 5,461,547) for benefit and

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advantage of providing effective intersection of light introduced into the light guide for substantially uniform light emission.

Regarding claim 16, Ishikawa et al. (U.S. Patent No. 5,575,549) does not disclose the backlight light source having a plurality of light sources arranged in one row.

On the other hand, Ciupke (U.S. Patent No. 5,461,547) discloses a panel display lighting system comprising a plurality of light sources 44 (Figure 6, column 4, lines 13-14) arranged in one row (Figure 6).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the backlight source device of Ishikawa by providing a plurality of lights as taught by Ciupke (U.S. Patent No. 5,461,547) for benefit and advantage of providing substantially uniform light emission.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (U.S. Patent No. 5,575,549) in view of Saito (U.S. Patent No. 5,779,337).

Regarding claim 12, Ishikawa et al. (U.S. Patent No. 5,575,549) does not disclose the light guiding surface having their projecting areas increasing with the distance increase to the middle of the light guiding plate.

On the other hand, Saito (U.S. Patent No. 5,779,337) discloses a plane light source comprising the light guiding surfaces 8 (Figures 4 and 5, column 11, lines 7-12) having their projecting areas increasing (Figures 4 and 5, column 11,

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lines 12-17) with the distance increase to the middle of the light guiding plate 1 (Figures 4 and 5, column 10, lines 59-60).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the backlight source device of Ishikawa by providing the projecting area configurations as taught by Saito (U.S. Patent No. 5,779,337) for benefit and advantage of providing high luminance with an improved utilization efficiency of light.

Allowable Subject Matter

6. Claim 5 is objected to as being dependent upon the rejected base claim 1, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to show or suggest a backlight source device comprising two sets of diffusing units alternatively arranged on its transparent light guiding plate.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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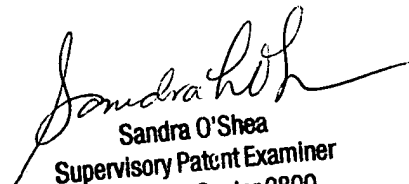
Ciupke et al. (US Patent 5,485,354) and Yokoyama et al. (US Patent 5,718,494) each discloses surface light source comprising some of the claimed components including a light guiding plate, diffusing surfaces, a reflecting surface and a lateral light source.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S Sawhney whose telephone number is 703-306-5909. The examiner can normally be reached on 7:30 - 5:15.
- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 703-305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-8303 for regular communications and 703-308-8303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2956.

HSS

May 3, 2000


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800